I love Warm Ups

Show work to each of the following

1) Stu has (four) bags each weighting 14.28 grams. What is the total weight of all bags?

means multiply

$$\begin{array}{r} \overset{1}{1}\overset{1}{4}.\overset{3}{2}8 \\ \times \quad 4 \\ \hline 57.12 \end{array}$$

Total weight of all 4 bag is

57.12 g.

⟹ has 4 equal sides

2) Jim has 13.65 m of cable to go around his square garden. What is the length of each side of his garden?

divide

$$\begin{array}{r} 3.4\ 12\ 5 \\ 4\overline{\smash{)}13.6500} \\ \underline{-12} \\ 16 \\ \underline{-16} \\ 05 \\ \underline{-4} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

Each side is 3.4125 m

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Practice

1. Estimate to choose the correct quotient for each division question.

	Question	Possible Quotients		
a)	4.4 ÷ 5	0.88 ✓	8.8	88
b)	10.32 ÷ 6	0.172	1.72 ✓	17.2
c)	87.2 ÷ 4	0.218	2.18	21.8 ✓

a) 5\1 = 1 but needs to be a little smaller

b) 10 is close to 12 and 12/6 = 2

c) 80/4 = 20

2. Divide. Estimate to place the decimal point.
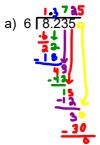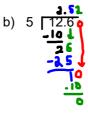   a) 8.235 ÷ 6   b) 12.6 ÷ 5   c) 39.77 ÷ 2
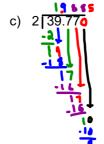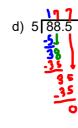   d) 88.2 ÷ 5   e) 2.367 ÷ 4   f) 4.573 ÷ 5

a) 6 ⟌ 8.235

b) 5 ⟌ 12.6

c) 2 ⟌ 39.77

d) 5 ⟌ 88.5

e) 4 ⟌ 2.367

f) 5 ⟌ 4.573

3. Divide. Write each quotient to the same number of decimal places as there are in the dividend.
   a) 3.05 ÷ 2   b) $49.67 ÷ 6   c) 6.1 ÷ 9
   d) 1.189 ÷ 3   e) 24.73 ÷ 9   f) $26.53 ÷ 6

a) 2 ⟌ 3.05

b) 6 ⟌ 49.67
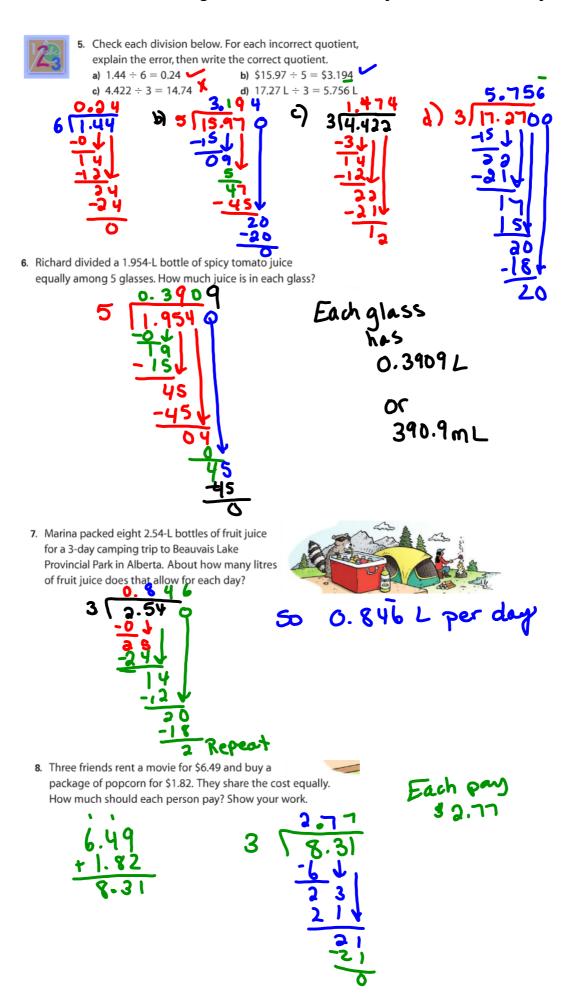
4. In a snail-racing contest, Noba's snail crawled 1.677 m in 5 min. About how far did the snail travel each minute?

About 1.5 ÷ 5 is 0.3 m in 1 min

5 ⟌ 1.677

Actual 0.3356 m in 1 min

5. Check each division below. For each incorrect quotient, explain the error, then write the correct quotient.

a) $1.44 \div 6 = 0.24$ ✓

b) $\$15.97 \div 5 = \$3.194$ ✓

c) $4.422 \div 3 = 14.74$ ✗

d) $17.27\,L \div 3 = 5.756\,L$

a)
```
   0.24
6 ⟌1.44
  -0 ↓
   14
  -12
    24
   -24
     0
```

b)
```
    3.194
5 ⟌15.970
  -15 ↓
    09
     5
    47
   -45 ↓
     20
    -20
      0
```

c)
```
    1.474
3 ⟌4.422
  -3 ↓
   14
  -12
    22
   -21
    12
```

d)
```
    5.756
3 ⟌17.2700
  -15 ↓
    22
   -21
     17
    -15
      20
     -18
       20
```

6. Richard divided a 1.954-L bottle of spicy tomato juice equally among 5 glasses. How much juice is in each glass?

```
   0.3909
5 ⟌1.954 0
  -0 ↓
   19
  -15 ↓
    45
   -45 ↓
     04
      0
     45
    -45
      0
```

Each glass has 0.3909 L

or

390.9 mL

7. Marina packed eight 2.54-L bottles of fruit juice for a 3-day camping trip to Beauvais Lake Provincial Park in Alberta. About how many litres of fruit juice does that allow for each day?


```
   0.846
3 ⟌2.54 0
  -0 ↓
   25
  -24 ↓
    14
   -12 ↓
     20
    -18
      2  Repeat
```

So 0.846 L per day

8. Three friends rent a movie for $6.49 and buy a package of popcorn for $1.82. They share the cost equally. How much should each person pay? Show your work.

```
  6.49
+ 1.82
  8.31
```

```
   2.77
3 ⟌8.31
  -6 ↓
   23
  -21 ↓
    21
   -21
     0
```

Each pay $2.77

Explore

You will need a calculator and a place-value chart.

➤ Use a calculator to find each quotient.

a)	b)	c)
$1 \div 4$	$25 \div 5$	$168 \div 8$
$0.1 \div 4$	$2.5 \div 5$	$16.8 \div 8$
$0.01 \div 4$	$0.25 \div 5$	$1.68 \div 8$
$0.001 \div 4$	$0.025 \div 5$	$0.168 \div 8$
	$0.0025 \div 5$	$0.0168 \div 8$
		$0.001\,68 \div 8$

Record the quotients in a place-value chart.

Division	Tens	Ones	Tenths	Hundredths	Thousandths	Ten-Thousandths	Hundred-Thousandths
$1 \div 4$							
$0.1 \div 4$							

➤ What patterns do you see in the expressions and their quotients?
Use these patterns to find the quotients below.

d)	$2 \div 8$	$0.2 \div 8$	$0.02 \div 8$	$0.002 \div 8$	$0.0002 \div 8$
e)	$35 \div 7$	$3.5 \div 7$	$0.35 \div 7$	$0.035 \div 7$	$0.0035 \div 7$
f)	$198 \div 9$	$19.8 \div 9$	$1.98 \div 9$	$0.198 \div 9$	$0.0198 \div 9$

Similar to what we have always done

Method 1

0.12 ÷ 3

Is 12 hundredths divided into 3 groups

is 4 hundredths in each group

0. 0 4

Method 2 (Long division)
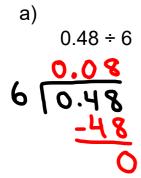
Actual

0.006 5

8 | 0.052 0

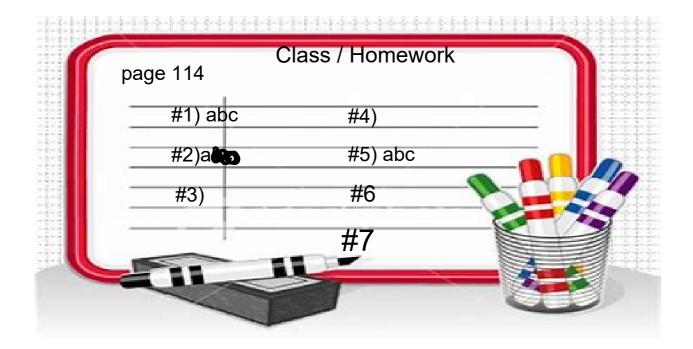−48

40

−40

0

You can check by
estimation first

0.052 is close to 0.056

0.056 ÷ 8

56 thousandths ÷ 8
is 7 thousandths

You Try

Divide the following, with long division.

NO remainder just decimal part

a)

0.48 ÷ 6

$$6 \overline{)0.48}$$ quotient 0.08

-48

0

b) 0.049 ÷ 7

$$7 \overline{)0.049}$$ quotient 0.007

-49

0

b) 0.44 ÷ 5

$$5 \overline{)0.440}$$ quotient 0.088

-40

40

-40

0

IMPOSSIBLE

Class / Homework

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#1) abc   #4)

#2)abc   #5) abc

#3)   #6

                          #7

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Practice ·

1. Divide.

   a) $0.28 \div 4$ b) $0.042 \div 7$ c) $0.015 \div 3$
   d) $0.024 \div 6$ e) $0.16 \div 8$ f) $0.0036 \div 9$

TIP

2. Find each quotient. What patterns do you see?

   a) $0.9 \div 3$ b) $0.56 \div 7$ c) $0.108 \div 9$
       $0.09 \div 3$ $0.056 \div 7$ $0.0108 \div 9$
       $0.009 \div 3$ $0.0056 \div 7$ $0.001\ 08 \div 9$

3. Quincy has 0.926 m of string.
   Suppose he cuts the string into 4 equal lengths.
   What is the length of each piece of string?

4. a) A typical hamster eats 0.084 kg of food a week.
   About how much food does a hamster
   eat in one day?
   b) Jiri's hamster was put on a special diet.
   Over 5 days, his hamster ate about 0.054 kg of food.
   About how much food did Jiri's hamster eat in one day?

5. Without dividing, choose the correct quotient for each division question. Explain your choice each time. Divide to check.

Question		Possible Quotients		
a)	0.072 ÷ 9	0.8	0.08	0.008
b)	0.124 ÷ 8	0.155	0.0155	0.001 55
c)	0.0045 ÷ 2	0.225	0.0225	0.002 25

6. A student said that since 51 ÷ 3 = 17, then 0.051 ÷ 3 is 0.17. Is the student's reasoning correct? Give reasons for your answer.

7. Divide. Which strategies did you use to estimate?
   a) 0.66 ÷ 8   b) 0.058 ÷ 4   c) 0.375 ÷ 5
   d) 0.05 ÷ 8   e) 0.0061 ÷ 2   f) 0.039 ÷ 6